

REMARKS

Claims 1, 2, 7-12, 30-31, 37-42 and 59 are rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,349,599 to Larkins (hereinafter "Larkins"). Claims 13-14, 17, 21-25, 43-44, 47 and 51-55 are rejected under 35 USC §103(a) as being obvious over Larkins in view of U.S. Patent No. 6,127,702 to Yamazaki (hereinafter "Yamazaki"). Applicants have amended the claims to more particularly define the present invention over the prior art. Applicants respectfully submit that the claims as amended are patentable over the prior art.

More particularly, independent claim 1 has been amended to recite, *inter alia*,  
... wherein said multilayer structure includes a top contact layer, a substructure formed above said top contact layer, and a top mirror formed above said substructure, portions of said substructure being selectively removed to provide said resonant cavities with different vertical dimensions that correspond to said different wavelengths.

Similar recitations are provided in independent claim 30. Nowhere does the prior art teach or suggest these features. Col. 13, lines 47-49 of Larkins, which is pointed to by the Examiner, describes the horizontal extent of the optical cavity defined by the sidewalls of region 34 of FIG. 3 of Larkins. The lengthwise extent of the optical cavity is formed by cleaving to form the planar mirror facets 33 of FIG. 3 of Larkins. In contrast to the multilayer structure of the present invention, Larkins does not employ a substructure formed above a top contact layer (i.e., the contact layer 40 of FIG. 3) and formed below a top mirror, whose portions are selectively removed to provide resonant cavities with different vertical dimensions that correspond to different wavelengths. Thus, Applicants respectfully submit that independent claims 1 and 30 are patentable over the prior art.

Dependent claims 3-29 and 32-59 are patentable over the prior art for those reasons advanced above with respect to independent claims 1 and 30 from which they respectfully depend and for reciting additional features that are not taught or suggest by the prior art. For example, claim 11 recites that "each given thyristor device of said array comprises an n-type modulation doped quantum well structure and a p-type modulation

doped quantum well structure. In another example, claim 12 recites "a current source operably coupled to at least one of said n-type modulation doped quantum well structure and a p-type modulation doped quantum well structure." Similar features are recited in claims 41 and 42, respectively. Nowhere does the prior art teach or suggest these features.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jay P. Sbrollini", written in a cursive style.

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